



County of Los Angeles  
**CHIEF ADMINISTRATIVE OFFICE**

713 KENNETH HAHN HALL OF ADMINISTRATION • LOS ANGELES, CALIFORNIA 90012  
(213) 974-1101  
<http://cao.lacounty.gov>

DAVID E. JANSSEN  
Chief Administrative Officer

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June 15, 2007

To: Supervisor Zev Yaroslavsky, Chairman  
Supervisor Gloria Molina  
Supervisor Yvonne B. Burke  
Supervisor Don Knabe  
Supervisor Michael D. Antonovich

From: David E. Janssen  
Chief Administrative Officer

**MOTION TO SUPPORT AB 1470 (HUFFMAN) – SOLAR WATER HEATING AND  
EFFICIENCY ACT OF 2007 (ITEM NO. 2, AGENDA OF JUNE 19, 2007)**

Item No. 2 on the June 19, 2007 Agenda is a motion by Supervisor Yaroslavsky to instruct: 1) the County's Sacramento advocates to support AB 1470 (Huffman); 2) the Executive Office to send a five-signature letter to Assembly member Huffman, the Assembly Speaker, the Senate Pro Tem, the Assembly Appropriations Committee, and the Los Angeles County Legislative Delegation informing them of the Board's support of AB 1470; and 3) the County's Sacramento advocates to work vigorously to get AB 1470 removed from the Assembly Appropriations Suspense File and work to ensure its passage. This item was continued at the May 29, 2007 Board Meeting.

Since this issue was before the Board last month, AB 1470 passed off of the Assembly Appropriations Suspense File, was amended on June 1, 2007, and passed the Assembly Floor on June 6, 2007 by a vote of 44 to 34. This measure is currently at the Senate Desk awaiting referral to a policy committee.

The June 1, 2007 amendments: 1) change the title from Solar Hot Water and Efficiency Act of 2007 to Solar Water Heating and Efficiency Act of 2007; 2) exempt customers participating in the California Alternate Rates for Energy (CARE) or Family Electric Rate Assistance (FERA) programs from the surcharge; 3) authorize individuals and families whose household income is at or below 300 percent of the federal poverty level to apply for an exemption; and 4) require a gas corporation to provide information to their

ratepayers no less than two times per year regarding the availability of these exemptions. The CARE Program provides a 20 percent discount on monthly bills for qualified low or fixed income households and housing facilities, and the FERA Program offers a discounted rate on the monthly electricity bill to income qualified customers that exceed their baseline usage by 30 to 100 percent.

The Internal Services Department (ISD) has prepared a memorandum, dated June 13, 2007 and contained in Attachment I, that provides additional information regarding solar water heating, the effectiveness of solar water heating, the payback period, and the San Diego pilot project. ISD recommends that the County support AB 1470 because: solar water heating increases energy efficiency and reduces greenhouse gases; the technology is already proven and used in many places in the world; solar water heating represents the single, potential largest source of natural gas savings in California's commercial office buildings; and financial incentives are needed to stimulate the solar water heating market and to create reasonable payback periods for residents.

Also, our previous memo of May 25, 2007 is contained in Attachment II for ease of reference.

**Although the County has existing policy to support the development of alternative energy sources, support for AB 1470 is a matter for Board policy determination because the bill imposes a surcharge on all gas customers to fund the program, and there is no existing policy on surcharges.**

DEJ:GK:MAL  
EW:hg

#### Attachments

c: Executive Officer, Board of Supervisors  
County Counsel  
Internal Services Department  
Parks and Recreation Department  
Probation Department



COUNTY OF LOS ANGELES  
Internal Services Department  
1100 North Eastern Avenue  
Los Angeles, California 90063

Attachment I



Dave Lambertson  
Director

*To enrich lives through effective and caring service.*

Telephone: (323) 267-2101  
FAX: (323) 264-7135

June 13, 2007

To: Each Supervisor  
From: Dave Lambertson *DL*  
Director  
Subject: **AB 1470 – SOLAR WATER HEATING BILL**

At the May 29, 2007 Board meeting, the Internal Services Department (ISD) was asked for a report back in three weeks related to AB 1470 – the Solar Water Heating and Efficiency Act of 2007. This report focuses on:

- The Key Provisions of AB 1470
- Effectiveness of Solar Water Heating
- Payback Period
- The San Diego Pilot
- Summary

**The Key Provisions of AB 1470**

AB 1470 would authorize the California Public Utilities Commission (CPUC) to implement a program for providing solar water heating incentives to residential and commercial customers. The incentives would not exceed \$250 million over a 10 year period and would be funded through a surcharge on natural gas customers. Low-income customers would be excluded from the surcharge.

On June 6, 2007, the bill was passed out of the Assembly by a vote of 44-34 and was referred to the State Senate for committee assignment and debate. Key provisions of the bill are:

- The CPUC is to design and implement an incentives program to subsidize the installation of solar water heater systems in natural gas investor-owned utility service territories with a goal of implementing 200,000 systems by 2017.
- The CPUC will fund the program, up to \$250 million over 10 years, through a consumption-based surcharge on gas customers, but exempts those customers with incomes below 300% of the federal poverty level.
- The CPUC will annually adjust the surcharge rate for each class of natural gas customers.

- At least 10% of the funds are to be allocated for low-income and affordable housing projects.
- Publicly-owned utilities will be required to establish a similar incentive program to help achieve the 200,000 solar water heater goal by 2017.
- The CPUC and the CA Energy Commission will be required to establish eligibility criteria for incentives eligibility. The proposed bill instructs the CPUC to use data from the San Diego Solar Water Heating Pilot in creating the program.

Like Senate Bill 1 (i.e., California's Solar Roofs Initiative), the solar water heater program incentives shall be greater initially and decline over the 10 year program life. Not later than July 1, 2010, the CPUC shall report to the Legislature on the effectiveness of the program and make recommendations as to any changes.

At this time, the specific amount of the surcharge has not been established. However, based on the ten year funding objective of \$250 million the CPUC has stated that the typical residence will pay on average about 13 cents per month for the surcharge.

Finally, SB 1, which collects \$3.5 billion over 10 years from electricity surcharges to subsidize solar power installations initially, contained provisions for solar heating. However, it was determined that it was not permissible for the costs of solar water heating installations that save natural gas to be offset with surcharges on electricity usage.

#### **The Effectiveness of Solar Water Heating**

Solar water heating works. The technology is proven and is used in a variety of locations in the world as a method to heat water. Solar water heaters come in a variety of configurations, differing in design and level of complexity. Most systems have back-up water heating such as electricity or gas. A solar water heating system usually consists of a hot water storage tank, a solar collector that absorbs solar energy and, in some cases, a circulation system.

Below are some pertinent excerpts from two recent reports on solar water heating that were referenced in the San Diego Pilot Program proposal. The reports are:

- 1) National Renewable Energy Laboratory (March 2007) – Technical Potential of Solar Water Heating to Reduce Fossil Fuel Use and Greenhouse Gas Emissions in the United States.

2) Environment California Research & Policy Center (April 2007) – Solar Water Heating, How California Can Reduce Its Dependence on Natural Gas. These reports state that:

- Solar water heating could save California the equivalent of 24% of natural gas use in homes.
- Solar water heating could save more natural gas than any other efficiency technology in commercial buildings.
- Between the residential and commercial potential for solar water heating, California could save over a billion therms, or 5.3% of all statewide natural gas consumption.
- 60% of residences in California and 75% of commercial buildings are suitable for solar water heating.
- At the end of 2005, 46 million homes in the world had solar water heating (a 14% increase from the year before). China accounts for 80% of the new systems. The technology is also used extensively in Europe, Turkey, Japan and Israel. The United States has 2% of world solar water heating installations.

Overall, this bill provides incentives for water heating in residential and commercial buildings.

#### **Payback Period**

A typical installation cost for an existing home is \$6,000. Installation costs for new homes are generally around \$3,000.

The "payback period" is the length of time it takes for the gas savings to offset the cost of installing a solar water heater. The payback period on any given solar water heating installation will vary depending on the size of the structure, the type of installation and other factors. For illustrative purposes, we have provided an estimate for a typical installation in an existing single family home. The math is as follows:

- The average home uses about 500 therms of natural gas per year: The average cost for this gas is approximately \$ 720 per year.
- Approximately 40% of this gas (about 200 therms) is used for water heating.

- Solar Water Heaters can reduce the gas required to heat water by approximately 80% - this saves 160 therms per year – at today's prices for natural gas, that approximates \$ 230 of savings per year.
- A typical solar water heating installation on an existing home costs \$6,000. There are Federal tax credits available that lower this cost by \$2,000. Without further incentives, the payback period would be around 17 years.
- State incentives proposed under AB 1470 (around \$2,000) could bring the payback period down to ten years or less.

Should natural gas prices rise in the future, the payback period would obviously shorten.

### **The San Diego Pilot**

In early 2007, the CPUC granted the San Diego Regional Energy Office (SDREO) \$2.5 million to develop a pilot solar water heating market in the San Diego region using natural gas surcharges as incentives.

The SDREO is a Joint Powers Agency of local utilities, local governments and public agencies in the San Diego area. They administer and deliver energy efficiency programs in the region including solar power programs using funds authorized by SB 1. The stated goals of the Solar Water Heating Pilot Program are to:

- Install 750 solar water heating units
- Establish a qualified installer list
- Develop installation standards and protocols
- Use knowledge gained to produce a program model which can be used state-wide

The pilot program is supposed to start on July 1, 2007 and conclude on December 31, 2008.

### **Summary**

As previously communicated to your Board, ISD recommends support of AB 1470. Our recommendation is based on the following:

- Solar water heating increases energy efficiency and reduces greenhouse gases. The technology is already proven and used extensively in many places in the world.

- California's Solar Power Initiative was highlighted by the passage of SB 1 which authorized the CPUC to collect \$3.5 billion in electricity surcharges over 10 years to spur a market for solar power and solar heating installations. However, because the surcharges are only collected from electricity customers, solar water heating (which primarily reduces natural gas usage) could not be incentivized. AB 1470 corrects this situation.
- Solar water heating represents the single, potential largest source of natural gas savings in California's commercial office buildings.
- Even at \$250 million dollars, AB 1470 still represents a very small portion of California residents. The comparison of AB 1470 with the San Diego pilot, below shows that AB 1470 still only reaches about 1.5% of residential buildings after 10 years.

Program	Target Installations	% of Residences (13 million) in the State	Program End Date	Program Cost	Potential Gas Savings
San Diego Pilot	750	.006%	2008	\$2.5 million	\$150,000
AB 1470	200,000	1.5%	2017	\$250 million	\$40,000,000

- Financial incentives are needed to stimulate the solar water heating market and to create reasonable payback periods for residents.

Please let me know if you have any comments or questions related to this report on have you staff contact Howard Choy at 323-881-3939.

DL: HC:z

c: David E. Janssen  
Geri Kariya  
ISD Board Deputies



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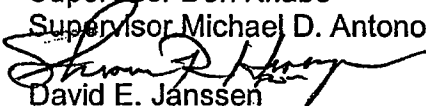
YVONNE B. BURKE  
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Fifth District

May 25, 2007

To: Supervisor Zev Yaroslavsky, Chairman  
Supervisor Gloria Molina  
Supervisor Yvonne B. Burke  
Supervisor Don Knabe  
Supervisor Michael D. Antonovich  
From:   
David E. Janssen  
Chief Administrative Officer

**MOTION TO SUPPORT AB 1470 (HUFFMAN) – SOLAR HOT WATER AND  
EFFICIENCY ACT OF 2007 (ITEM NO. 100-D, SUPPLEMENTAL AGENDA OF  
MAY 29, 2007)**

Item No. 100-D on the May 29, 2007 Supplemental Agenda is a motion by Supervisor Yaroslavsky to instruct: 1) the County's Sacramento advocates to support AB 1470 (Huffman); 2) the Executive Office to send a five-signature letter to Assembly Member Huffman, the Assembly Speaker, the Senate Pro Tem, the Assembly Appropriations Committee, and the Los Angeles County Legislative Delegation informing them of the Board's support of AB 1470; and 3) the County's Sacramento advocates to work vigorously to get AB 1470 removed from the Assembly Appropriations Suspense File and work to ensure its passage.

Existing law grants the Public Utilities Commission (PUC) regulatory authority over public utilities, including gas corporations. Among its various responsibilities, as authorized in SB 1 (Chapter 132 of 2006), the PUC is required to implement the California Solar Initiative, which provides incentives for the installation of solar electrical projects. The California Solar Initiative is limited to systems that produce electricity, and excludes those that offset the need for natural gas, because it is only funded by electricity rate payers.



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As amended on May 2, 2007, AB 1470 establishes a new gas utility surcharge to fund a 10-year, \$250 million program to subsidize the installation of solar hot water heaters to offset the need for natural gas. This bill would require the PUC to: 1) implement a program within the territories of the investor-owned gas corporations to provide incentives toward achieving a goal of installing 200,000 solar hot water systems throughout the State by 2017; 2) fund the program through a consumption-based surcharge on gas customers, except for those customers with incomes below 300 percent of the federal poverty level; and 3) establish eligibility criteria and other conditions for program participation. At least 10 percent of the funds would be allocated for low-income and affordable housing projects, and each publicly-owned utility would be required to establish a similar incentive program to help achieve the 200,000 solar hot water systems goal by 2017.

According to the Assembly Natural Resources Committee's analysis, supporters believe that solar hot water heaters could be an important part of California's energy future. A solar hot water heater furnished and installed for \$4,000 to \$6,000 could save the average homeowner between 100 and 200 therms of natural gas a year – an 18 percent to 36 percent reduction in average usage. Based on 2006 average residential gas bills of \$720 annually, the average California residential customer would save around \$225 per year on their natural gas bills. Because of the current long payback period, supporters believe a state incentive program is needed to foster greater use of this technology. The incentive payments would decline over time as scale economies reduce the initial costs of solar hot water heaters. It is estimated that this program could result in a reduction of 18 percent of California's current demand for natural gas.

The Internal Services Department (ISD) indicates that the County, as a large natural gas customer, would pay its share of this funding source through its facilities' bills, but it would be a nominal amount compared to the County's annual \$50 million natural gas bills. Many of the County's water heating systems are natural candidates for new solar heating systems and the County could benefit from this program. ISD indicates that ideal candidates for solar heating would be parks and recreational facilities (botanical gardens, golf courses), probation camps, campuses, and some commercial office buildings. Because there are significant natural gas savings yet to be realized in water heating systems in homes and businesses in California, ISD recommends that the County support AB 1470.

The Department of Parks and Recreation indicates certain park facilities would be good candidates for solar water heating technologies, including gymnasiums and community centers. They also advise that there would likely be additional capital and

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operational costs associated with the program. The Department is recommending a support position on AB 1470.

The Probation Department notes that additional facility funding would be necessary for the Department to benefit from this program to pay for the initial costs to install and retrofit a solar water heating system. These costs may eventually be offset if the State bond funding to upgrade juvenile probation facilities becomes a reality. The Department has no position on the bill.

**Although the County has existing policy to support the development of alternative energy sources, support for AB 1470 is a matter for Board policy determination because the bill imposes a surcharge on all gas customers to fund the program, and there is no existing policy on surcharges.**

AB 1470 is sponsored by the author and supported by several organizations, including: The Association of California Community and Energy Services; Americans for Solar Power; California Solar Energy Industries Association; Clean Power Campaign; Coalition for Clean Air; and the Natural Resources Defense Council. There is no registered opposition. This measure is currently on the Assembly Appropriations Suspense File.

DEJ:GK  
MAL:EW:hg

c: Executive Office, Board of Supervisors  
County Counsel  
Internal Services Department  
Parks and Recreation Department  
Probation Department